INFORMATION SYSTEMS COMPATIBILITY

Edited by

SIMON M. NEWMAN

Many system models have been constructed as a result of the great attention being paid to the control of scientific and technical information so that retrieval of this information is simple, complete and relevant. Unfortunately, little attention has been directed to the interaction of these systems. This volume consolidates the opinions of a distinguished group of documentalists on the dimensions of the problem, the programs now focused on achieving compatibility, the authority files, indexing languages, and the standards being proposed to bring order to this important aspect of the storage and retrieval of scientific and technical information.

IBM No. 9062 **6 X 9 illus.** **184 pages** **$7.50**

VOL. 1 OF THE TECHNOLOGY OF MANAGEMENT SERIES

The Center for Technology and Administration of The American University introduces, with this volume, its Technology of Management Series. Under the general editorship of Paul W. Howerton, Director, the series is designed to present the thinking of the leading practitioners in the information sciences.

Volume 1, edited by Simon M. Newman, Professorial Lecturer at the University, is based on papers given at the Sixth Institute on Information Storage and Retrieval held at the Center. The theme was Systems Compatibility for Scientific and Technical Information. The proliferation of special libraries and information systems has created problems and unique situations which have resulted in divergent methods of performing the same processes and subprocesses. This book attempts to show the ways of achieving cooperation among associated organizations.

The principal concepts around which the chapters were planned may be summed up as Compatibility, Convertibility, Cooperation and Standardization. The diversified coverage is illustrated by the division of the book into:

- **PART I.** Requirements and Problems
- **PART II.** Programs to Achieve Compatibility
- **PART III.** Thesauri, Dictionaries, and Word Lists
- **PART IV.** Indexing Languages and Mechanisms

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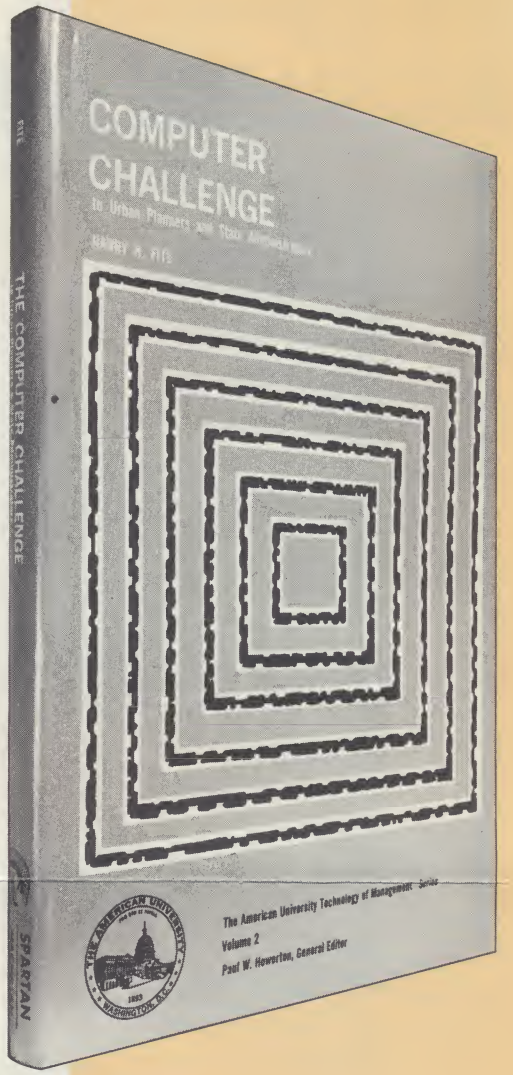
TO URBAN PLANNERS and STATE ADMINISTRATORS

By HARRY H. FITE



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The articles were written and given to government top managers and designed to alert them to the fact that the growth of computer technology is of vital importance and usefulness to them.

Some of the topics covered are:

- **Automation and Management Education**
- **Sounder Decisions in City Government**
- **Municipal Process Control**
- **Centralized Computer Traffic Control**
- **Evolution of ADP in State Government**
- **Automation of a State Revenue Department**

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in "THE TECHNOLOGY OF MANAGEMENT" SERIES FROM SPARTAN BOOKS

AUTOMATION AND ELECTRONICS IN PUBLISHING

Edited by: LOWELL H. HATTERY and GEORGE P. BUSH

General Editor: PAUL W. HOWERTON

IBM No. 9095 6 X 9 illus. 216 pages $8.75

AUTOMATION AND ELECTRONICS IN PUBLISHING is the third in The American University Technology of Management series. Under the general editorship of Paul W. Howerton, these books apply the technological advances, especially in the computer and information sciences, to the broad problems of management.

Automation and Electronics is based on the results of a symposium sponsored by the University in order to explore the electronic printing automation problems and to present the various viewpoints, proposed solutions and outline for the future. It also contains a comprehensive bibliography of this new area of computer applications to the graphic arts. The editors, Doctors Lowell H. Hattery and George P. Bush are both experienced in the managerial technological sciences. They have brought together in this volume the opinions and plans of experts from the newspapers, periodicals and book publishing fields.

Publishing and printing have reached an evolutionary turning point, but as they become faster and less expensive, they become less dependent on the traditional skills and consequently require more sophisticated equipment and humans in the planning stages. The broad range of the book is illustrated by the following topics:

- **Definition and Scope**
- **Experience with Computers**
- **Printing and Typesetting Technology**
- **Management and Economics**
- **Topical Commentary (by the Editors)**

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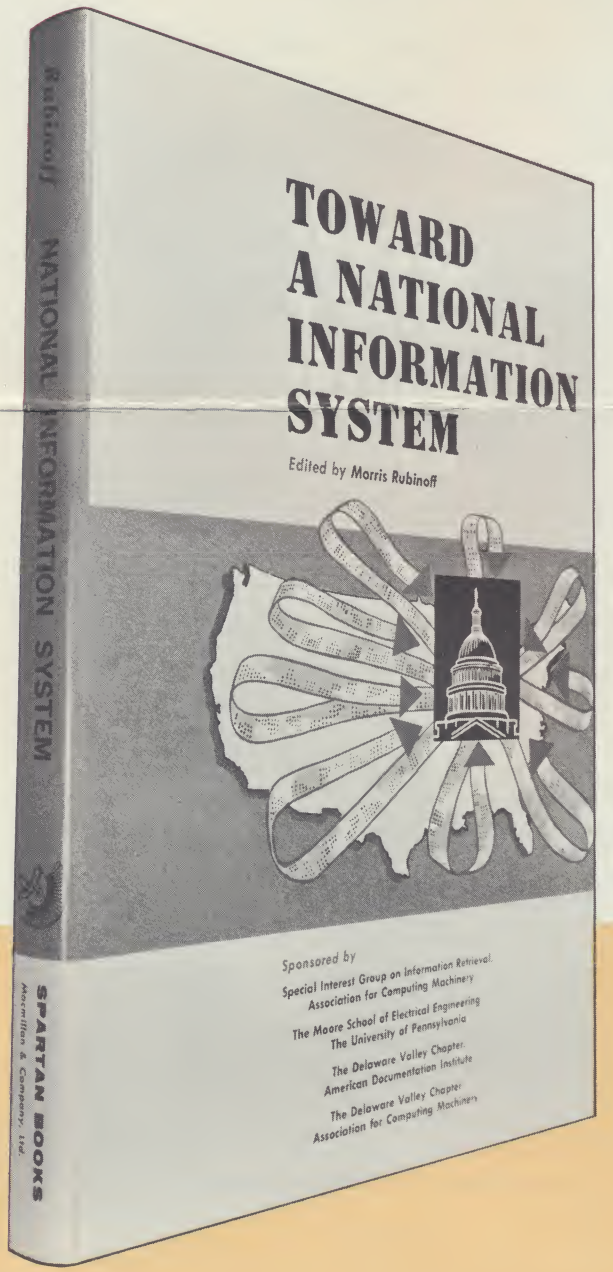
NEW PUBLICATIONS
ON THE INFORMATION PROCESSING SCIENCES

TOWARD A NATIONAL INFORMATION SYSTEM

Edited by
MORRIS RUBINOFF



TOWARD A NATIONAL INFORMATION SYSTEM is the theme of this volume representing the proceedings of the Second Annual National Colloquium on Information Retrieval held in Philadelphia. Edited by Dr. Morris Rubinoff of the Moore School of Electrical Engineering of the University of Pennsylvania, the book acknowledges the strong impetus toward a national information system and brings together here many of the divergent and convergent viewpoints and developments.

■ Paced by Congressman Roman C. Pucinski expounding on the bill, H.R. 664, "A National Research Data Processing and Information Retrieval System," participants in the conference lent their expertise from professional societies, industry, government and educational institutions. The resulting papers represent an up-to-date report on what seems to be a necessary and attainable goal.

■ Steps in this direction have already been taken by, for example, the Weinberg Report, the Stanford Research Institute 5-Point Program, the Pucinski Plan, and by the President's Science Advisory Committee (PSAC) and the Committee on Science and Technical Information (COSATI). The papers here presented discuss the role of the engineering societies in a national information system, the economics of such a system, the place of research libraries, and a national registry system for chemical compounds.

■ Also covered are the contributing factors of man-computer interaction, administration, retrieval center-normal text techniques and natural language processing.

■ As an indication of the progress "toward a national information system," the text of Public Law 89-182 is included as Appendix II. Passed by the 89th Congress on September 14, 1965, this Act is designed "To promote commerce and encourage economic growth by supporting State and Interstate programs to place the findings of science usefully in the hands of American enterprise."

There has been substantial impetus toward a national information system to handle the ever-increasing number of scientific and technical publications. Plans are being developed and action is being instituted by the professional societies community, by the military and by the civilian government. The many divergent and convergent viewpoints and developments to date were presented in open forum at this Colloquium. Key members of industry, professional societies, educational institutions, the library community and government participated. The Proceedings incorporate all the papers presented at the Colloquium.

THE EDITOR

IBM No. 9051 6 X 9 illus. 250 pages $9.50

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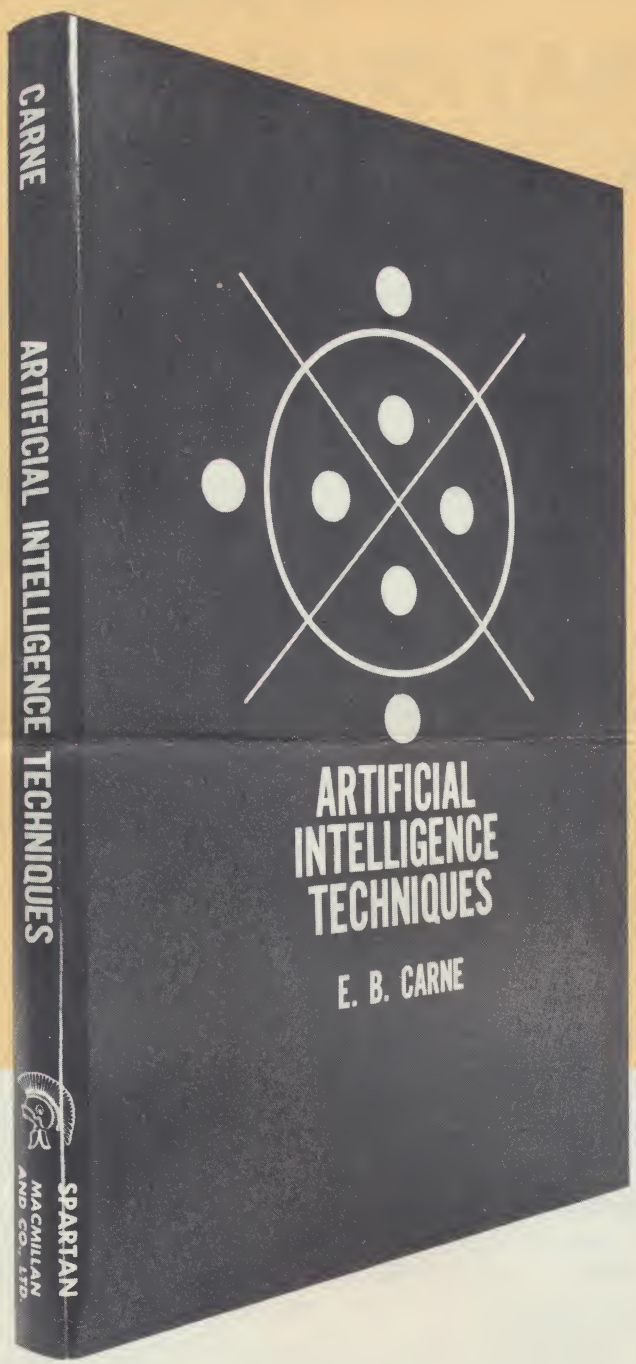
FOR INFORMATION PROCESSING SCIENTISTS

by E. B. CARNE

ARTIFICIAL INTELLIGENCE TECHNIQUES



ARTIFICIAL INTELLIGENCE is part of the new and rapidly expanding field of bionics, which seeks to apply biological principles to the design of electronic systems in order to produce equipment which simulates facets of the behavior of intelligent organisms. In its application to learning, efforts are being made to achieve a similar function in an electronic system, thus opening the way to development of devices which can relieve humans of arduous analytical and arithmetic tasks.

The author, Dr. E. B. Carne, obtained his Ph.D. in Electrical Engineering from the University of London; he has long been engaged in the design and development of computer components and computer-controlled systems. His book is a guide to electronic techniques which can be used to simulate intelligence. It describes the central nervous system, discusses the major approaches to neuron modelling and describes the organization of a simple learning system.

The second part of the book applies the learning techniques to pattern recognition, discusses heuristic programming and presents methods for improving the reliability of logical systems.

DR. CARNE has attempted to present the practical aspects of learning machines to the engineer who is interested in logic and computers. Here is a volume which faces the real problems of probing the workings of the human system; it concentrates on *breadboard* rather than *blackboard.*

IBM No. 9063 6 X 9 illus.
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Fundamentals of DISPLAY SYSTEMS

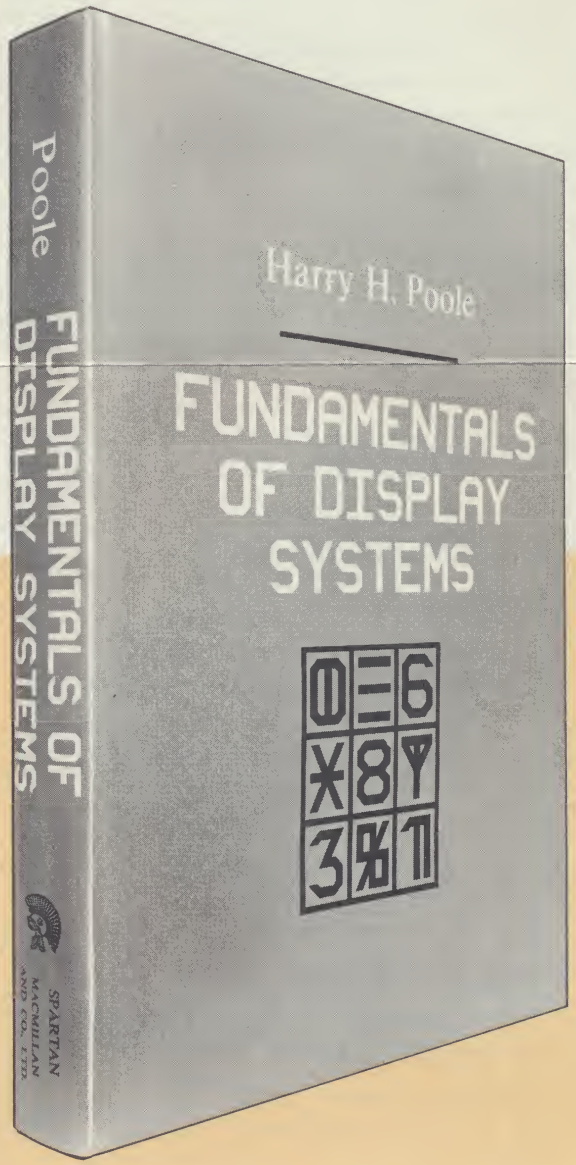
by HARRY H. POOLE

A STUDY IN DISPLAY GENERATION . . .

■ This book provides a broad study of the techniques which are used in generating displays. It includes not only the display devices themselves but also display system considerations and related engineering areas. Special emphasis is given to television, radar and computer generated displays. The book concludes with a discussion of the most promising techniques which are still in the research stage.

CONTENTS:

■ The first two sections cover techniques which can be used in generation displays. The scope is in breadth rather than depth, with the majority of display techniques available covered. The third part of the book covers system design considerations, with special emphasis on television, radar and computer systems. Part four is a detailed discussion of three engineering areas related to the display field. The significance of this section is that the topics are covered from a display designers point of view. Part five is a discussion of the most promising techniques which are still in the research stage, and a summary of the present state of the display art. The text is augmented by four appendixes: Commercial Television Standards; Glossary; Nomenclature and Bibliography.



SPECIFIC HEADINGS:

■ Cathode Ray Tube Techniques—The Basic Cathode Ray Tube, Special Purpose Cathode Ray Tubes, Color Cathode Ray Tubes, Color by External Methods, Environmental Considerations; Other Display Techniques—Large Screen Projection Techniques, Large Screen Discrete Techniques, Individual Display Units, Display Peripheral Devices; Display Systems—Introduction to the Display System, Television Systems, Radar Systems, Computer Generated Systems, Miscellaneous Applications; Related Areas—Human Engineering Considerations, Optics, Luminescences; Future Display Techniques —Present State of the Art, New Techniques.

ABOUT THE AUTHOR, HARRY H. POOLE

Graduate of Vanderbilt University, 1954 BA in Physics. Present position: Senior Development Engineer—Honeywell, Inc. Responsible for both the analysis and design of computer-display systems in the areas of Command and Control and Navigation & Guidance.

IBM No. 9065 6 X 9 illus. 416 pages $20.00

TECHNICAL INFORMATION CENTER ADMINISTRATION

Edited by ARTHUR W. ELIAS

TICA 2

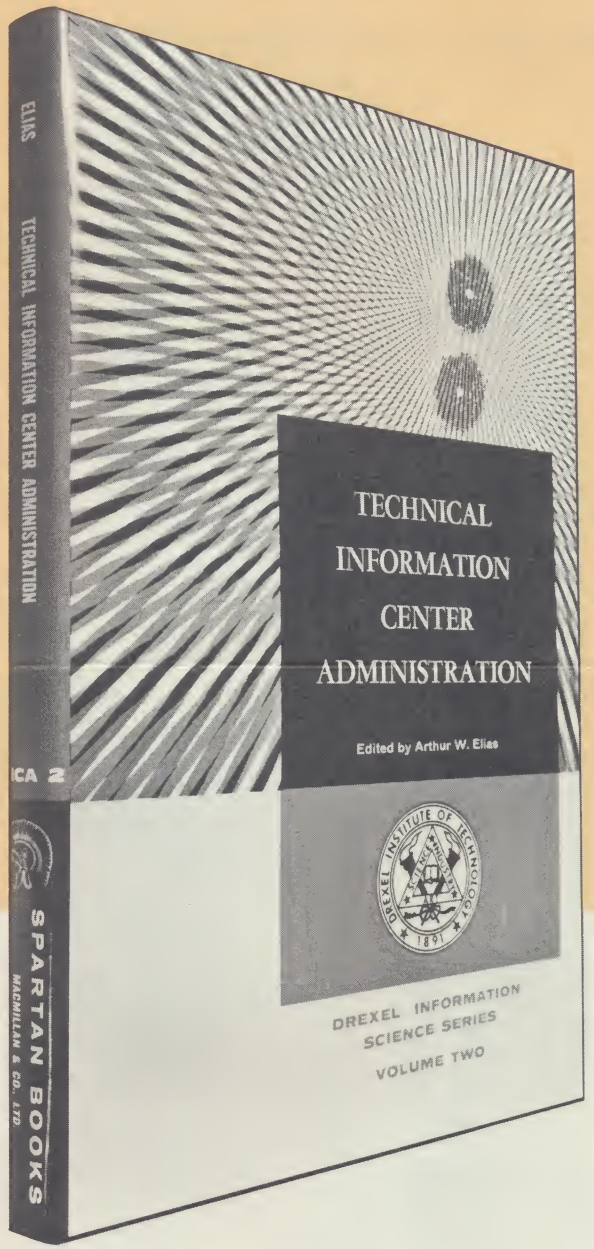
This volume, one of the Drexel Information Science Series, is a report of the proceedings of the second conference on Technical Information Center Administration. Following the success of TICA 1, this meeting drew participants from as far west as California to its site among the rolling hills of Pennsylvania. The broad range of interest is accurately reflected in these papers which make up the second book.

Indeed, TICA 2 stands independently as a source of valuable information to the inquirer into the new field of information science as well as a report on latest developments to those who have followed it since its inception. Drawing on the skill and knowledge of authorities from industry, government and academia, the Editor, Arthur W. Elias, has compiled a blend of practical and theoretical ingredients, valuable at all levels of experience and understanding.

The comprehensive coverage of Technical Information Center applications includes:

- REPORT WRITING
- INTERNAL PUBLICATIONS
- DOCUMENT STORAGE AND HANDLING
- MANAGEMENT
- USER EDUCATION
- QUALITY CONTROL

Finally the whole concept is brought sharply into realistic focus by the irreverent but penetrating comments of an eminent science-fiction writer and editor.



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TICA 1 TECHNICAL INFORMATION CENTER ADMINISTRATION

IBM No. 9011 6 X 9 illus. 171 pages $6.75

Edited by A. W. ELIAS,
Drexel Information Science Center Vol. 1, 171 pages, 6x9 illus., (1964) Order No. 9011 $6.75

Both volumes of Technical Information Center Administration provide the proceedings of conferences on the subject held under the auspices of Drexel Institute of Technology. They provide an up-to-the minute review of the functions of a technical information center. Each paper was written by an authority in the information science field.

PROCEEDINGS OF THE SYMPOSIUM ON

EDUCATION FOR INFORMATION SCIENCE

Warrenton, Virginia—September 7-10, 1965

Edited by LAURENCE B. HEILPRIN / BARBARA E. MARKUSON / FREDERICK L. GOODMAN

PROCEEDINGS OF THE SYMPOSIUM ON EDUCATION FOR INFORMATION SCIENCE Five separate sessions of panel discussions were held at this symposium, as well as additional special presentations. Since the reports by these panels were written simultaneously, they represent five independent group views of the conference.

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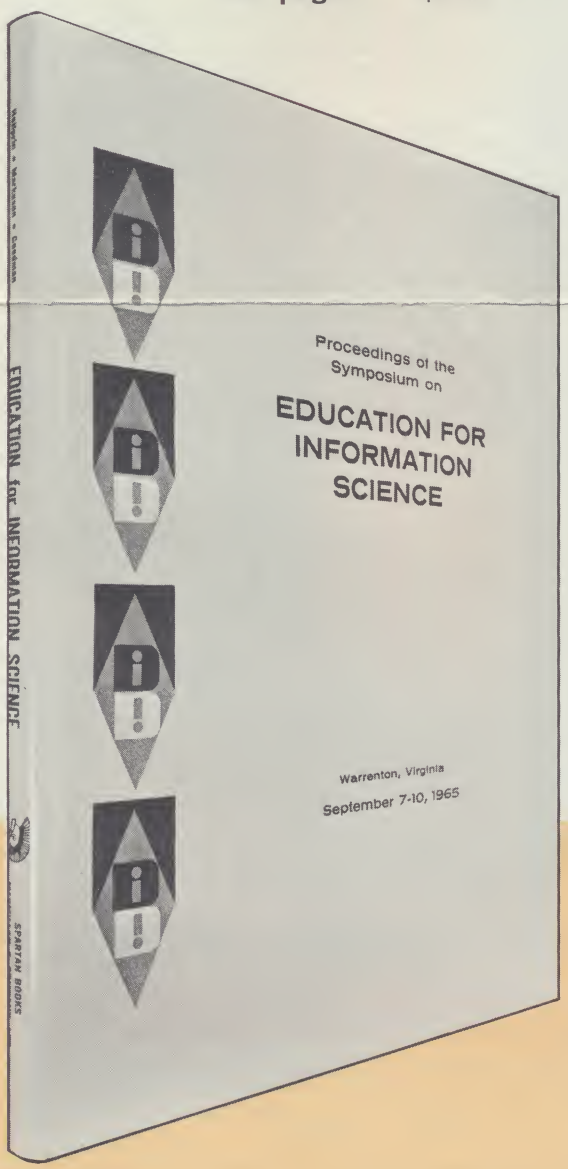

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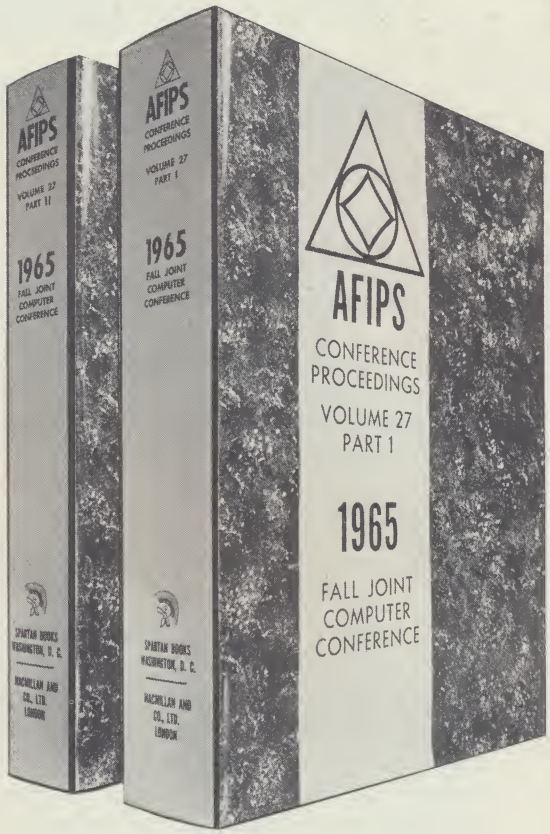
AFIPS

CONFERENCE PROCEEDINGS VOLUME 27, PART I AND II

1965 JOINT COMPUTER CONFERENCE



HERE IS THE LATEST addition to this outstanding series of large, double-column, information-crammed volumes published by Spartan twice a year immediately prior to the Spring and Fall Joint Computer Conferences of the American Federation of Information Processing Societies. Each volume provides a permanent record of the work and transactions of the Technical Program sponsored by AFIPS, and is thus an invaluable reference source and summary of much of the literature. The large number of papers in each volume, all written by experts in their respective fields, encompasses a broad cross section of computer-science and technology.

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- TIME-SHARED COMPUTER SYSTEMS: SOFTWARE/HARDWARE CONSIDERATIONS
- SCRATCHPAD MEMORIES
- ARITHMETIC TECHNIQUES AND SYSTEMS
- SIMULATION OF HUMAN BEHAVIOR

AFIPS Volume 27 Part II is the post-conference section of the Proceedings of the Fall Joint Computer Conference of 1965. It will be approximately one-half the size of Part I, and availability is estimated to be late July.

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